

Attorney Docket No.: 7933-38 (MCP-0141)  
Inventors: Halpern and England  
Serial No.: 09/744,406  
Filing Date: January 22, 2001  
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This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of the claims:

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Claim 1 (previously amended): A cellular immunogen for immunizing a host against the effects of the product of a target proto-oncogene, the overexpression of which target proto-oncogene is associated with a cancer, which cellular immunogen comprises <allogeneic donor cells which have been transfected with at least one transgene construct comprising at least one transgene cognate to the target proto-oncogene and a strong promoter to drive the expression of the transgene in the transfected cells, wherein the transgene is nontransforming and encodes a gene product which induces host immunoreactivity to host self-determinants of the product of the target proto-oncogene gene.

Claim 2 (previously amended): A immunogen according to claim 1 wherein the transgene comprises:

- (1) mutant retroviral oncogene DNA; or
- (2) mutant proto-oncogene DNA of a species different from the host species.

Claim 3 (previously amended): A cellular immunogen for immunizing a host against the effects of the product of a target

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proto-oncogene, the overexpression of which target proto-oncogene is associated with a cancer, which cellular immunogen comprises allogeneic donor cells which have been transfected with at least one transgene construct comprising at least one transgene cognate to the target proto-oncogene and a strong promoter to drive the expression of the transgene in the transfected cells, the transgene encoding a gene product which induces host immunoreactivity to host self-determinants of the product of the target proto-oncogene gene, and wherein the transfected cells are non-dividing.

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Claim 4 (previously amended): An immunogen according to claim 3 wherein the transgene comprises mutant retroviral oncogene DNA or mutant proto-oncogene DNA.

Claim 5 (original): An immunogen according to claim 4 wherein the mutant DNA is nontransforming.

Claim 6 (previously amended): An immunogen according to claim 2 wherein the mutant DNA comprises a deletion mutation in a region of said DNA which is essential for transformation.

Claim 7 (original): A cellular immunogen according to claim 6 wherein the donor cells have been transfected with a plurality of

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transgene constructs, each construct encoding a different deletion mutation.

Claim 8 (original): An immunogen according to claim 1 wherein the donor cells have been transfected with a transgene cognate to a target proto-oncogene selected from the group of proto-oncogenes consisting of AKT-2, *c-erbB-2*, MDM-2, *c-myc*, *c-myb*, *c-ras*, *c-src* and *c-yes*.

Claim 9 (original): An immunogen according to claim 1 wherein the donor cells comprise fibroblasts or bone marrow-derived antigen-presenting cells.

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Claim 10 (previously amended): A method for preparing a cellular immunogen for immunizing a host against the effects of the product of a target proto-oncogene, the overexpression of which target proto-oncogene is associated with a cancer, the method comprising:

transfecting allogeneic donor cells with at least one transgene construct comprising at least one transgene cognate to the target proto-oncogene and a strong promoter to drive the expression of the transgene in the transfected cells, wherein the transgene is non-transforming and encodes a gene product which induces host immunoreactivity to host self-determinants of the product of the target proto-oncogene gene.

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Claim 11 (previously amended): A method according to claim 10, wherein the transgene comprises:

- (1) mutant retroviral oncogene DNA; or
- (2) mutant proto-oncogene DNA of a species different from the host species.

Claim 12 (previously amended): A method for preparing a cellular immunogen for immunizing a host against the effects of the product of a target proto-oncogene, the overexpression of which target proto-oncogene is associated with a cancer, the method comprising:

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transfecting allogeneic donor cells with at least one transgene construct comprising at least one transgene cognate to the target proto-oncogene and a strong promoter to drive the expression of the transgene in the transfected cells, the transgene encoding a gene product which induces host immunoreactivity to host self-determinants of the product of the target proto-oncogene gene, wherein the transfected cells are non-dividing.


Claim 13 (previously amended): A method according to claim 12 wherein the transgene comprises mutant retroviral oncogene DNA or mutant proto-oncogene DNA.

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Claim 14 (original): A method according to claim 13 wherein the mutant DNA is nontransforming.

Claim 15 (previously amended): A method according to claim 11 wherein the mutant DNA comprises a deletion mutation in a region of said DNA which is essential for transformation.

Claim 16 (original): A method according to claim 15 wherein the donor cells are transfected with a plurality of transgene constructs, each construct encoding a different deletion mutation.

 Claim 17 (previously amended): A method according to claim 10 wherein the transgene is cognate to a target proto-oncogene selected from the group of proto-oncogenes consisting of AKT-2, c-erbB-2, MDM-2, c-myc, c-myb, c-ras, c-src and c-yes.

Claim 18 (previously amended): A method according to claim 10, wherein the donor cells comprise fibroblasts or bone marrow-derived antigen-presenting cells.

Claims 19-28 (currently canceled)

Claim 29 (previously added): A cellular immunogen for immunizing a host against the effects of the product of a

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target proto-oncogene, the overexpression of which target proto-oncogene is associated with a cancer, which cellular immunogen comprises allogeneic donor cells which have been transfected with at least one transgene construct comprising at least one transgene cognate to the target proto-oncogene and a strong promoter to drive expression of the transgene in the transfected cells, wherein the transgene is selected from the group consisting of AKT-2, c erbB-2, mdm-2, c-myb, c-myc c-ras and c-yes, and wherein the transgene encodes a gene product which induces host immunoreactivity to host self-determinants of the product of a target proto-oncogene.

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Claim 30 (previously added): A cellular immunogen according to claim 29 wherein the transfected cells are rendered non-dividing.

Claim 31 (previously added): A cellular immunogen according to claim 29 wherein the host <sup>112<sup>nd</sup></sup> cells comprise fibroblasts.

Claim 32 (previously added): A cellular immunogen according to claim 29 wherein the donor <sup>112<sup>nd</sup></sup> host cells comprise fibroblasts or bone marrow-derived antigen-presenting cells.

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Claim 33 (previously added): A cellular immunogen according to claim 32 wherein the bone marrow-derived antigen-presenting cells are selected from the group consisting of macrophages, dendritic cells, and Langerhans cells.

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Claim 34 (previously added): A cellular immunogen according to claim 9 wherein the bone marrow-derived antigen-presenting cells are selected from the group consisting of macrophages, dendritic cells, and Langerhans cells.

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Claim 35 (previously added): A method according to claim 18 wherein the bone marrow-derived antigen-presenting cells are selected from the group consisting of macrophages, dendritic cells, and Langerhans cells.

Claim 36 (previously added): A method according to claim 27 wherein the bone marrow-derived antigen-presenting cells are selected from the group consisting of macrophages, dendritic cells, and Langerhans cells.

Claim 37 (previously added): An immunogen according to claim 3 wherein the transgene comprises

- (1) wild-type or mutant retroviral oncogene DNA; or
- (2) wild-type or mutant proto-oncogene DNA of a species

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different from the host species.

Claim 38 (previously added): A method according to  
claim 12 wherein the transgene comprises

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- (1) wild-type or mutant retroviral oncogene DNA; or
  - (2) wild-type or mutant proto-oncogene DNA of a species  
different from the host species.
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